

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the
5 application:

Listing of Claims:

Claims 1-10 (canceled).

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Claim 11 (Currently amended): ~~Use of a combination of recombinant domains derived from any one of the alpha, beta, gamma, delta and epsilon subunits of the primate muscle nicotinic acetylcholine receptor (AChR) in a method of immunoabsorption. A method for removing anti-acetylcholine receptor (anti-AChR) antibodies from serum of a myasthenia gravis (MG) patient, comprising the steps of:~~

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i) contacting said serum of the MG patient with a combination of recombinant N-terminal extracellular domains of alpha, beta, gamma, delta and epsilon subunits of a primate muscle nicotinic acetylcholine receptor (AChR); and
ii) immunoabsorbing anti-AChR antibodies from said serum.

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Claim 12-13 (canceled).

Claim 14 (currently amended): The use method of claim 11 wherein the primate is human.

Claim 15 (currently amended): The use method of claim 11 wherein the recombinant 5 domains are mutant forms of said domains.

Claim 16 (currently amended): The use method of claim 15 wherein the mutant forms include substitutions of free cysteine by other amino acids and substitutions of the hydrophobic loops of the subunits corresponding to alpha 128-142 by more hydrophilic 10 sequences, or the alpha domain containing the P3A exon, or comprise a FLAG tag at the N-terminal. N-terminal in the presence or absence of the 6His tag.

Claim 17 (canceled).

15 Claim 18 (currently amended): The use method of claim 11 wherein the recombinant N-terminal extracellular domain of the alpha subunit is ~~the N-terminal extracellular domain comprising comprises~~ amino acids 1-210.

20 Claim 19 (currently amended): The use method of claim 11 wherein the recombinant N-terminal extracellular domain of the beta subunit is ~~the N-terminal extracellular domain comprising comprises~~ amino acids 1-222.

Claim 20 (currently amended): The use method of claim 11 wherein the recombinant N-

terminal extracellular domain of the gamma subunit is the N-terminal extracellular domain comprising comprises amino acids 1-218.

Claim 21 (currently amended): The use method of claim 11 wherein the recombinant N-

5 terminal extracellular domain of the delta subunit is the N-terminal extracellular domain comprising comprises amino acids 1-224.

Claim 22 (currently amended): The use method of claim 11 wherein the recombinant

N-terminal extracellular domain of the epsilon subunit is the N-terminal

10 extracellular domain comprising comprises amino acids 1-219.

Claim 23 (currently amended): The use method of claim 11 wherein the recombinant N-

terminal extracellular domains are expressed in a eukaryotic expression system.

15 Claim 24 (currently amended): The use method of claim 23 wherein the eukaryotic expression system is Pichia pastoris or SFV, selected from the group consisting of Pichia pastoris, Semliki Forest Virus, and combinations thereof.

Claim 25 (currently amended): The use method of claim 11 wherein the recombinant N-

20 terminal extracellular domains are comprise large sequences of more than approximately 70 amino acids long and, preferably, about 200 amino acids long.

Claim 26 (currently amended): The use method of claim 11 wherein the combination is

achieved simultaneously or sequentially.

Claim 27 (canceled).

5 Claim 28 (withdrawn): A carrier comprising a combination of recombinant domains of the primate muscle nicotinic AChR subunits alpha, beta, gamma, delta and epsilon.

10 Claim 29 (withdrawn): The carrier of claim 28 comprising a recombinant domain of the alpha subunit of the primate muscle nicotinic AChR in combination with a recombinant domain derived from any one of the beta, gamma, delta and epsilon subunits of the primate muscle nicotinic AChR.

Claim 30 (withdrawn): The carrier of claim 28 wherein the recombinant domains are covalently immobilized to the carrier matrix.

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Claim 31 (withdrawn): The carrier of claims 28 wherein the carrier has a mixture selected from agaroses, such as CNBr-Sepharose, celluloses, porous glass, silica, resins, synthetic matrixes including acrylamide derivatives, methacrylamide derivatives or polystyrene derivatives.

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Claim 32 (withdrawn): The carrier of claim 28 wherein the carrier is in the form of beads, fibrous form, sheets or hollow fibers, with spacer arms or without.

Claim 33 (withdrawn): A method for making a carrier for use in a method of immunoadsorption of anti-AChR antibodies comprising:

- i) expressing a combination of recombinant domains of AChR subunits in a eukaryotic expression system;
- 5 ii) incubating said purified domains with an insoluble carrier matrix.

Claim 34 (withdrawn): The method of claim 33 wherein the combination of domains is coexpressed.

10 Claim 35 (withdrawn): The method of claim 33 wherein the eukaryotic expression system is *Pichia pastoris* or SFV.

Claim 36 (currently amended): A method of *ex vivo* removal of anti-AChR antibodies from the blood of MG patients comprising incubating said blood with a carrier 28
15 comprising a combination of recombinant N-terminal extracellular domains of the primate muscle nicotinic AChR subunits alpha, beta, beta, gamma, delta, and epsilon.

Claim 37 (withdrawn): A recombinant domain of the beta subunit or gamma unit, or delta unit or epsilon unit of the primate muscle nicotinic AChR.

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Claim 38 (withdrawn): The recombinant domain of claim 37 wherein said domain of the beta unit is the N-terminal extracellular domain comprising amino acids 1-222.

Claim 39 (withdrawn): The recombinant domain of claim 37 wherein said domain of the gamma unit is the N-terminal extracellular domain comprising amino acids 1-218.

Claim 40 (withdrawn): The recombinant domain of claim 37 wherein said domain of the
5 delta unit is the N-terminal extracellular domain comprising amino acids 1-224.

Claim 41 (withdrawn): The recombinant domain of claim 37 wherein said domain of the epsilon unit is the N-terminal extracellular domain comprising amino acids 1-219.

10 Claim 42 (new): The method of claim 25 wherein the recombinant N-terminal extracellular domains comprise about 200 amino acids.